

WHAT IS A MIND?

UNIVERSITY OF CAPE TOWN



WEEK 3 – ASK MARK, QUESTION 3

So here comes question three. If a conscious mind is only aware of the things that are currently affecting it, can a conscious mind be aware of more than one thing at a time? I guess it can but there must be a limit, but I wonder how that's managed, how does the conscious mind prioritise what it holds in consciousness?

So there are two questions there, the one is about limits and the other is about priorities, and obviously they're related. Starting with the limits that's actually quite an easy thing to answer. And the answer is really surprising; there are extreme limits on consciousness. Cognitive consciousness is capable on the average of holding seven bits of information in mind at any one point in time.

Seven bits of information, you compare seven bits of information to the totality of the bits of information that constitute your memory, that constitute everything you've learnt about yourself in relation to the world, in how the world works. It is an absolutely enormous number of billions of bits of information but you can only hold seven of them in consciousness simultaneously at any one point in time.

Neuropsychologists, when we test consciousness, in this cognitive sense of the word, how much information can the patient hold in consciousness; we give them a string of digits. And if the patient can hold, can remember, can recite six digits back to us we think they're normal. Seven if what we expect and you also find quite a lot of people who can manage eight. So we say seven plus or minus one is what we expect from a normal patient.

That, by the way, is why telephone numbers are seven digits long. Those of you live in London might remember, I was living there in the 90s when they changed London's codes and the numbers became, for a very brief period of time... the way we treated the numbers was as if they were eight digits long and we just couldn't cope. And so the seven and the eight got shunted into the prefix so that we could get back to our seven digits, seven bits of information which is all we are able to hold in consciousness. Now, that by the way is not a controversial statement, it is generally excepted we are able to hold seven bits of information in our consciousness.

So that's the limit of it, consciousness is an extremely limited resource, it is an extremely precious resource for that reason. And that leads to the second part of the question which is how do we prioritise. The way I'd like to answer that is to point out that there is a great pressure to get things out of consciousness because we can't afford to waste that very limited capacity of consciousness that we have. That is why so much cognition is unconscious, that is why in a manner of speaking, in a very real manner of speaking, the purpose or aim or goal of cognition is to render things unconscious.

By which I mean, and here I'm explaining now the answer to the second part of the question, as long as we don't need to be conscious of something we shut it into the unconscious. That's where we want things to be. Once we've solved a problem in other words we then rendered a solution unconscious. I know how to do that, when faced with this situation I do the following, that I predict... that's the prediction I have, that's what works, that's what scratches that itch, that's what meets that need, that's what solves that problem. I don't need to think about it consciously.

So I can use my consciousness to – I can apply my consciousness to those problems that I haven't yet solved. So that's how we prioritise, what is in consciousness is what needs to be in consciousness which is a problem that has not yet been solved, a problem the solution to which we cannot predict. So we need to think our way through that problem and I put it like this, when I say we need to think our way through that problem consciously, what that means is we have to feel our way through that problem.

Consciousness is fundamentally feeling, so we now have to feel our way into the information processing business of cognition in order to have a value system which tells us which outcome is better. If there's no value system, if there's no valance, then there's no way of knowing is this working or is that working. I don't know how to get to work, looking at my map, I'm trying to get there, but when I get there it feels good because now how my brain tells me this is my solution, that's good, this is right, as opposed to this is anxiety provoking, this is all going wrong.

So that value, the quality of feeling, of sentient being, your presence, your presence in the cognition, is fundamentally feeling and feeling is needed in order to solve problems. Once they're solved you don't need the feeling anymore and the solution can be automatised and you can feel your way into new things. So that's how we prioritise. What matters if what's not solved, that's what becomes salient, and that's the technical term that they use. Salience means apply attention to this, attention is consciousness and consciousness comes from the upper brainstem, and then we're back to the first question.

So thanks for that question about the limits and prioritising of the contents of consciousness at any one point in time.



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